

Yale 5/12/2011

Coarse Summary of Discussion Topics on the Post-ANPR “Action Plan”

Bay/Delta Team Meeting¹
03 May 2011

Schedule of Milestones

05/11/11 (COB): Tim sends 3rd internal draft Action Plan to Bay/Delta Team (so block-out some time on your schedules for the 12th & 13th to review the document)

06/01/11: Team sends draft Action Plan to Alexis, other R9 managers, HQ

07/01/11: Team sends revised draft Action Plan to Water Boards and other federal agencies

July/August: Team prepares “public draft” Action Plan that incorporates comments received, and discussions with stakeholders referenced above.

September: Team releases “public draft” Action Plan

Potential venues TBD

* SFEP State of the Estuary conference 9/20-21

<http://www.sfestuary.org/soe2011/>

* Delta Stewardship Council

* CFBF annual conference in Sparks, NV²

<http://www.cfbf.com/programs/events.cfm>

* Salmonid Restoration Federation

<http://www.calsalmon.org/>

October/November: Team finalizes Action Plan.

December: Team releases Final Action Plan (and blasts off)!

Ammonia

¹ Participants: Foresman, Hagler, Herbold, Schwinn, Vendlinski, Yale

² I’m not kidding....

1. **EPA will support the efforts of the Central Valley Water Board to restrict loads of total ammonia nitrogen (ammonia) discharged from the Sacramento Regional Wastewater Treatment Plant (SRWTP) as part of the new NPDES permit that will be issued to the Sacramento Regional County Sanitation District (SRCSD)³.**
2. **EPA will engage with the Central Valley Water Board and SRCSD⁴ to seek *interim actions* for curbing ammonia discharges (e.g., double-processing wastewater) while work is done to upgrade infrastructure at the SRWTP.**

Tertiary treatment and denitrification of the wastewater by SRCSD may be sufficient for resolving the toxicity problem in the Bay/Delta, however, it will take years to build new infrastructure for this purpose, and interim actions should be devised now and implemented to reduce loads of ammonia to acceptable levels (e.g, double-processing wastewater to decrease ammonia to the lowest levels afforded by existing infrastructure).

* Erin/Bruce follow-up with Dugdale, Foe, and Sablad to discuss potential aspects of an interim action, e.g., double-processing wastewater, and the “flow window” during late May/early June as a function of a given water year.

3. **EPA will engage with the Water Boards (Central Valley, San Francisco Bay) to list Suisun Bay as impaired for ammonia under CWA §303(d), and establish a site-specific water quality objective (standard) for this contaminant in Suisun Bay.**
* Erin follow-up with Foe and Board #2
4. **Engage with the Central Valley and San Francisco Bay Water Boards to develop site-specific ammonia criteria for the Delta.**
5. **Engage Water Boards to establish “estuarine NNE” for site-specific ammonia criteria for the Delta.** * Erin and Karen meet with TF

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6. **Control “other sources” of ammonia including the reclamation and re-use of water at the municipal level⁶.**
* Erin follow-up with Foe and Board #2.
7. **EPA will finalize the *national ammonia criteria*.**

³ The term “support” means: leveraging grant programs, providing supportive testimony, filling data gaps, expending “political” capital on outreach to key sectors.

⁴ <http://srcsd.com/>

⁵

⁶ Discussed as a potential alternative for cities and utilities building new water intakes or increasing exports to So. CA.

* Karen will check with OST on status

Selenium

1. EPA Region 9 will promulgate site-specific numeric criteria to protect aquatic-dependent wildlife species (including T & E species) from selenium in the Bay-Delta.

This action, which is the first phase⁷ of revision of selenium criteria by EPA for California as a whole, will be completed in 2011. It addresses the long-term (chronic) exposure of wildlife to selenium in the **San Francisco Bay and Delta**, using an ecosystem-based model developed by the USGS to account for food web processes, hydrology (flowing versus and site-specific conditions (e.g., flowing and standing water)⁸. The criteria, which will also be protective of aquatic life, are expected to significantly lower the allowable concentrations of selenium in water and species' tissue.⁹

The existing TMDLs for agricultural drainage in the San Joaquin Valley could be affected by requirements resulting from the site-specific Delta criteria. (This presumes

⁷ Subsequent work will result in the promulgation of criteria statewide.

⁸ Theresa Presser & Samuel N. Luoma, *A Methodology for Ecosystem-Scale Modeling of Selenium*, 6 INTEGRATED ENVTL. ASSESSMENT & MGMT. 685, 685-710 (2010) <http://onlinelibrary.wiley.com/doi/10.1002/ieam.101/abstract>. This work is pursuant to two agreements reached following an ESA consultation and Biological Opinion on the California Toxics Rule; U.S. EPA agreed to develop and promulgate as part of the California Toxics Rule aquatic life criteria for listed species.

⁹ Work to revise nation-wide criteria for protection of aquatic life have been underway through EPA Headquarters. Although much of the technical work has been completed, the formal process for public review and EPA adoption has not started yet.

that selenium loading might continue at levels meeting existing standards (5 ppb) and also that the area currently discharging selenium does not reach zero discharge.)

EPA also has a national effort underway to establish guidance criteria for selenium to protect aquatic life in freshwater under CWA §304(a), using a methodology consistent with the USGS method. This effort will tailor the numeric criteria to different conditions in flowing and standing waters, and will account for the effects of selenium on T&E species.

2. EPA will support the work of the San Francisco Bay Water Board to complete a TMDL for selenium in the North San Francisco Bay, Suisun Marsh and the West Delta (“North San Francisco Bay TMDL”).

An important component of EPA’s support will continue to be development and promulgation of protective wildlife criteria, using the USGS ecosystem-based methodology. It is expected that the Regional Board will adopt the site-specific selenium criteria currently under development by EPA for this TMDL.

The San Francisco Regional Water Board recently issued a report on the status of technical studies and assessments relating to the required ‘technical’ elements of a TMDL, including numeric targets, selenium loads coming from various sources, and the linkage of these factors to species exposure.¹⁰ Freshwater flows from rivers entering the Delta strongly influence water quality in this northern area of the Bay and western Delta. Thus, effective implementation of the selenium TMDLs in the San Joaquin basin are expected to benefit the North Bay.

** CY/DF/ WTR5: What can we say about the refinery permits and dilution credits?*

3. EPA will work with the Central Valley Water Board and other agencies overseeing implementation and monitoring for the Grasslands Bypass Project:

- a. **to improve the effectiveness of monitoring and reporting¹¹ for the Project**
- b. **and to enlist the technical expertise from this Project in designing a broader monitoring plan for selenium.**

With the recent State Board approval of a time extension for implementing the Project, the Regional Water Board [will soon issue] revised Waste Discharge Requirements that include monitoring of project compliance. Monitoring associated with the Project has covered chemical water quality, biological effects, toxicity, and sediments. To get a fuller picture of selenium risk to biota, and to re-examine protective targets for selenium in the San Joaquin River and tributaries using the USGS ecosystem-based model, other information is needed. The Fish and Wildlife Service has provided evidence that juvenile salmon may be at risk under the current conditions.¹² With the anticipated re-introduction of salmon above the Merced through the San Joaquin River Restoration

¹⁰ San Francisco Bay Region, Water Quality Control Board, “Total Maximum Daily Load Selenium in North San Francisco Bay, Preliminary Project Report,” January 2011 (prepared by Barbara Baginska).

¹¹

¹² The lower San Joaquin River between the confluence with the Merced and the Delta has been removed from listing as ‘impaired’ for selenium, as the chronic objective of 5 ppb selenium is met. This section of the river has fall run salmonids.

Program, this issue is important.

5. **EPA will work with scientists and representatives from other federal and State agencies to identify and develop data relevant to species exposure and add them to decision-making models (e.g., the *Presser-Luoma* model).**

** To “populate” the model with data that will improve its accuracy in both the Bay-Delta and the San Joaquin Valley, Carolyn will consider seeking funds or a statement of need in a science section to be added to the Action Plan. Cy: will work on this.*

Pesticides

Finding: The waters within the geographical area encompassed by EPA Region 9 are affected by more pesticide-related impairments (per CWA §303(d)) than any other EPA Region¹⁵.

1. **EPA will coordinate internally across its programs (i.e., Office of Water, and Office of Pesticide Programs) to incorporate an *aquatic life benchmark* into the *common effects methodology* for evaluating the environmental risks of pesticides, and to advance the *harmonization* of the CWA and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).**

* EF & KS meet with CED

2. **EPA will support the State Board’s implementation of its “toxicity policy” to addresses the additive effects of multiple contaminants, and to convert narrative criteria for pesticides in waterways into numeric criteria¹⁶.**

3. **EPA will support the work of the Central Valley Water Board to amend the Central Valley Pesticide TMDL and Basin Plan Amendment¹⁷ to establish water quality criteria and Total Maximum Daily Loads (TMDLs) for pesticides that are impairing aquatic life in the Bay/Delta, especially pyrethroids.**

4. **EPA will support the work of the California Department of Pesticide Regulation (DPR) to: (a) improve the methods for applying pesticides; (b) write new instructions for product labels that detail the improved application methods; and (c) formulate water quality regulations for urban pesticide use.**

* EF will follow-up with DPR to ask how we can help

5. **EPA will assist DPR in their collaboration with industry, municipalities, and**

¹³

¹⁴

¹⁵ Coastkeeper?

¹⁶ http://www.swrcb.ca.gov/water_issues/programs/state_implementation_policy/docs/not_wrkshp_tox_policy.pdf

¹⁷ http://www.swrcb.ca.gov/rwqcb5/water_issues/tmdl/central_valley_projects/central_valley_pesticides/index.shtml

consumers to significantly reduce the amount of pesticides purchased and applied across California. Consider launching an “Energy Star” style program to honor enlightened applicators and application methods, certain products, and integrated pest management (IPM) programs¹⁸.

6. **EPA will collaborate with the State Board, municipalities, and non-governmental organizations to utilize existing models (or develop new ones, if necessary) to characterize the the fate and transport of pesticides from urban/suburban landscapes into the Bay/Delta.**

*

EF will look into what different models do

7. **EPA and the State Board will determine whether or not unpermitted stormwater outfalls are contributing pesticides and other contaminants to the receiving waters of the Bay/Delta, and, if so, EPA will exercise its *residual designation authority* to bring these point sources into compliance with the NPDES program¹⁹.**

* Erin and Karen will meet with Smith & Denton; Erin maps permits; where no permits exist, use model to assess potential problem...

* Tim will cross-walk with RMP section...

Contaminants of Emerging Concern

1. **EPA will support the work of the California Department of Toxic Substances Control (DTSC) to advance the implementation of the Green Chemistry Initiative²⁰.**

This will include EPA’s efforts to harmonize the federal Toxic Substances Control Act (TSCA) with non-regulatory pollution prevention (P2) programs and the State’s Green Chemistry Initiative.

* Tim will follow-up with Rainer (SFEI) re: the P2 side of CECs.

* Tim will follow-up with John Katz to see if R9 is still active in GC initiative.

2. **EPA will support the work of DEA and municipalities on advancing “take-back” programs for pharmaceuticals, hygiene products, etc.²¹**

* Echo EPA’s “4-prong strategy” on CECs²².

¹⁸ <http://www.epa.gov/opp00001/factsheets/ipm.htm>

¹⁹ ANPR: *Water Quality Challenges in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (FEB 2011), pp. 14, 45, 47. http://www.epa.gov/region9/water/watershed/sfbay-delta/pdf/BayDeltaANPR-fr_unabridged.pdf
EPA and Maine Take Action to Reduce Stormwater Pollution in South Portland Ecosystem (2008)
<http://yosemite.epa.gov/opa/admpress.nsf/0/F1D98AA01E51472A8525751600541E79>

²⁰ <http://www.dtsc.ca.gov/PollutionPrevention/GreenChemistryInitiative/index.cfm>
<http://coeh.berkeley.edu/docs/news/2009-bcgc-acsc.pdf>

²¹ http://www.takebacknetwork.com/news_t.php

²² http://www.epa.gov/ow/speeches/9-18-08_EPA_Emerging_Contaminants_Testimony.pdf
<http://co.water.usgs.gov/publications/non-usgs/Batta09Conta.pdf>

* Tim follow-up with Luisa to see whether this action could be advanced through R9/WTR-3.

Estuarine Standard

1. **EPA will support the State Board in establishing a 12-month estuarine standard in the revised Water Quality Control Plan for the Delta.** This standard will define *suitable habitat*, and identify acceptable *reference conditions* that corresponded with the large populations of native aquatic species²³. Specifically, the standard will be designed to increase the temporal and spatial variability of the salinity isohaline (X2) across the Bay/Delta so physical and biological conditions favor the reproduction and survival of native species.

* Bruce follows-up with Wim K. on: (a) obtaining 3D model from (circa 1994) and related SAS stats package that correlates “level of development” with different precipitation years; (b) options for filling data gap for fall X2 with work from one of Wim’s associates (through the ASC grant?); and (c) forecasts for how 12-month estuarine standard would be affected by different scenarios proposed by BDCP.

* Bruce forecasts how EPA’s proposed estuarine standard is affected by different scenarios related to BDCP’s likely infrastructure proposal and water exports.

* Bruce articulates how the likely ESA-related actions on flow for listed species contrasts with the proposed CWA-related actions on flow to establish a 12-month estuarine standard to safeguard a diversity of beneficial uses.

* Erin and Bruce collaborate (with Mo!) on preparing some graphic art that depicts the horizontal and vertical spread of the low-salinity zone (X2) within the estuary under different flow conditions.

2. EPA will engage the State Board toward establishing a CWA §303(d) listing for flow

²³http://www.swrcb.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/

impairments for the Bay/Delta.

* Erin discusses options with P.K. (WTR-2)

Migratory Corridors

1. EPA will engage the State Board toward establishing a “category 5” listing for impairments to migratory corridors for salmon in the Bay/Delta under CWA §303(d)²⁴, and will link this listing with the establishment of a TMDL for temperature already underway for the San Joaquin River and tributaries²⁵.

* Bruce asks DFG to model flows needed to fix temperature impairment.

* Bruce cross-references this action with necessary flow releases from the reservoirs to support spawning conditions for a cold water fishery.

* Bruce cross-references this action with existing/potential requirements by FERC that requires dam operators to protect spawning conditions for adult salmon, and with NOAA’s mandated attraction flows on the Stanislaus R.

* Bruce cross-calculates the flows needed for this action with the flows needed for the proposed 12-month estuarine standard.

* Erin discusses options with P.K. (WTR-2)

2. EPA supports the work of the State Board to establish water quality standards for the San Joaquin River that result in flows sufficient to establish *migratory corridor* for salmonids in the region the river enters the South Delta.

* Bruce contacts CDFG and Les to discuss how amended SJR flow objectives could accomplish this goal.

Wetlands

1. EPA will engage with the Sacramento Corps District to confer federal jurisdiction on all Delta islands that have subsided below sea level (under CWA §404)
- 2.

²⁴ Per Erin: A “category 5” listing under CWA §303(d) corresponds with the *cause* of the impairment that should be addressed by TMDLs, while a “category 4” listing corresponds with the *source* of the impairment that should be addressed by other means.

²⁵ Tim couldn’t find anything online save R9’s helpful webpage, but, even then, the notion of a temperature TMDL for the Delta didn’t seem prominent. <http://www.epa.gov/region9/water/watershed/sfbay-delta/>

3. EPA will engage the Sacramento Corps District and municipalities to identify and designate appropriate mitigation sites within the secondary zone of the Delta, and to establish mitigation ratios that are consistent with the Final Compensatory Mitigation Rule (2008)²⁶.
 - * Tim follows-up with USGS and Superfund (Harry Allen) to ask them about feasibility for sequestering/remediating methylmercury loads/hotspots within the Yolo Bypass ²⁷.
 - * Tim evaluates options for WQ trading schemes to address Hg
 - * Erin/Tim talk with the Corps about requiring monitoring for Hg at mitigation sites
4. EPA will engage with DWR and the Sacramento Corps District²⁸ under the Central Valley Flood Management Program (CVFMP) to conserve and restore floodplains on the periphery of the Delta to amplify beneficial uses across the region and accommodate floodwaters²⁹.

Integrated Monitoring and Assessment Program

1. **EPA will engage with the Water Boards and the Interagency Ecological Program (IEP) to design and establish a *Program* that integrates monitoring and assessment for the Delta and its Central Valley watershed** for the following purposes:
 - a. Understanding the transport within the B-D and fate of contaminants [xyz] introduced via Sacramento and San Joaquin river inflows under a range of tributary hydrologic and management conditions.
 - b. Provide reports [?time frame] to the WBs regarding on key chemical, physical and biological stressors and processes to help plan and prioritize actions pursuant to the Boards' Strategic Plan for the Delta.
 - c. .
2. **EPA will engage with the State Board and the Interagency Ecological Program (IEP) to develop a common data management system for water quality related data.** A common system should ensure that data on water quality and related beneficial use condition are collected and available in forms that promote sharing and application. The uses of information considered will relate to water quality concerns at the local as well as state and federal levels. Design of this system will be conducted under the direction of the [?] and will involve the regional monitoring program initiatives underway in the Delta and San Joaquin, as well as representatives of the Sacramento River Watershed Program and...

CY: Call Steve McCord...

²⁶ <http://www.epa.gov/owow/keep/wetlands/wetlandsmitigation/index.html>

²⁷ http://water.usgs.gov/nrp/proj.bib/Marvin_Dipasquale.html

http://swrcb2.swrcb.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/delta_hg/other_technical_report_s/ybwa_hg_final_rpt.pdf

²⁸ per Erin: The Corps took promising steps toward protecting aquatic resources within the Delta by suspending NWP 29 and 39 that otherwise would have allowed small residential, commercial, institutional developments.

<http://www.spn.usace.army.mil/regulatory/nwp/NWP29.pdf>

<http://www.spn.usace.army.mil/regulatory/nwp/NWP39.pdf>

²⁹ <http://www.water.ca.gov/cvfmp/documents.cfm>

3. As part of the integrated Monitoring and Assessment Program for the Bay-Delta watershed incorporate an “accountability framework” for actions to restore and protect water quality³⁰.

- * Develop stewardship indicators that can be reported by (or derived from data reported in) existing water quality protection programs, such as ILRP, MS4, and municipal NPDES permitting.
- * Establish an a website [similar to the Chesapeake Bay Chesapeake Bay TMDL Tracking and Accounting System (BayTAS)?] to report performance, assess progress and enhance accountability and transparency.
- * Articulate transparent goals.
- * Collaborate with the Water Board on their “Irrigated Lands” program.
- * Add numeric requirements to stormwater permits. [Query: Are numeric targets the answer? What induces measurable results? Consequences...?]
- * Coordinate with SFEI to discuss: (i) routes for ensuring implementation, (ii) feedback loops, and (iii) adaptive management.

Action for Delta RMP [wetlands] Through CWA authorities (404, 401) and voluntary programs EPA will assist managed wetlands with monitoring and compliance with water quality requirements and to sustain the conservation and habitat values of these resources.

-- This action will assist conservation of habitat thru BDCP mitigation of loss of managed wetlands to tidal habitat.

-- Work with the California Water Quality Monitoring Council to sponsor a standard assessment protocol for managed wetlands. [Note: The CVJV and associates may be of assistance.]

action for Delta RMP [wetlands]: EPA will engage the State Board and the Sacramento Corps District to establish a Regional Monitoring Plan (RMP) for the Delta requiring: compliance with conditions written into permits issued by the State Board and the Corps under CWA sections 401 and 404 involving stormwater runoff; and surveys of the presence/absence of methylmercury in the vicinity of mitigation areas.

potential action for Delta RMP [contaminants]: EPA will continue supporting the work of the Coalition for Urban and Rural Environmental Stewardship (CURES) to develop a Regional Monitoring Plan for the San Joaquin River that characterize the sources of contaminants (including selenium), the fate and transport of these contaminants, and the performance of public and private pollution control programs.

potential action for Delta RMP [contaminants]: EPA will partner with federal and State

³⁰ During our meeting we developed an action on “TMDL tracking & accountability” per Sam’s idea, so, for the sake of discussion I pasted-in notes from my conversation with Sam on this topic. [CY: even if there were many TMDLs to track in the B-D, their full implementation would not accomplish the water quality needed to protect beneficial uses. Some of the recommendations we’re making are, for example, flow-oriented, and not typically implemented thru TMDLs. TMDLs can be a very inefficient way to improve water quality – especially if ‘by the book with load allocations etc. – very up front info intensive. Push for a range of practices/programs with an accounting system: good ‘stewardship’ practices and policies, TMDL implementation, etc. (Could this be part of existing programs such as stormwater, ILRP,...?)

agencies to link the existing monitoring effort for the Grasslands Bypass Project with emerging monitoring effort for the San Joaquin River Restoration Program³¹.

Research, modeling and analysis: Priority Needs

1. EPA will study an array of proposed alternatives for changing the way freshwater is moved through the Delta (including the “Delta Corridors” proposal)³².
7. **EPA will work through the [Delta science program?] to organize a collaborative review and refinement of conceptual models (such as models developed for DRERIP) to characterize the fate and transport of contaminants into and through the Bay/Delta. The models will consider scenarios that differ with respect to inflow and Delta channel configuration³³.**

The Central Valley watershed is the source of many pollutants of concern in the Delta. Existing concentrations and loads of contaminants entering the Delta via the San Joaquin River harm the health of the Delta ecosystem as well as within the River itself. Large storm pulses are also known to be times when contaminants are flushed into the Delta. Changes in the amount and manner of Delta diversions could exacerbate this problem if there is reduced inflow from the Sacramento River and less water movement associated with the existing through delta conveyance.

Support development of flows modeling and analysis on the San Joaquin that reflects channel conditions, routing, and travel time of flows on the main River and bypasses (from Friant Dam to the Delta), and tributaries from [...] to the Delta. *(CY: call Lisa Holm or Gene Lee for help. Is this needed, available for tribes? At higher flows, how much is understood, given the propensity of River to spread out?)*

CY: considerations in reframing this: (1) sediment transport, deposition, re-suspension. (2) For selenium: , conditions for flushing selenium from the Bay Delta into the Pacific Ocean ; effectiveness of flushing in reducing the exposure of aquatic life to contaminant³⁴.

2. EPA will assist the State Board with improving models to forecast the fate and transport of **pesticides** to the Bay/Delta ecosystem.

Bay Delta Conservation Plan (BDCP)

❖ Need to discuss potential effect on wq, and what needs to be considered as we evaluate alternatives.

³¹ <http://www.restoresjr.net/>

³² http://deltacorridors.com/uploads/DCPresentation_UOPWaterForum_May2008.pdf

³³ Selenium is a relatively serious problem now in the Bay/Delta, but its adverse effects could be much more profound if an isolated facility is constructed and/or one or more catastrophic events occur.

³⁴ This proposed action should be linked with the establishment of a migratory corridor for salmonids on the San Joaquin River and San Joaquin River Restoration Program (<http://www.restoresjr.net/>).

❖ **Need to discuss baseline conditions for pre-PC operations.** Are there things we want to say about how non-salinity WQ parameters are effected by operations, and how they might be considered (rather than attempting to address this in the development of future WQS)?
[CY query re intent of this highlighted statement. Is this environ doc baseline (without project)? Or some other context and purpose? Let's discuss – espec. if it's got anything to do with impacts as construed in envir review.]

Low Impact Development Strategies (LIDS) for Water Quality

❖ Promoting LIDS, engagement with municipalities on land-use matters, and non-regulatory approaches to protecting and restoring WQ and water supply.

Anti-Degradation Policy

❖ WTR-5 is analyzing this statewide and may have recommended language for the Action Plan.

Invasive Species

1. To be discussed...stay tuned (or start writing)
- 2.

Threads for creating compelling vision statement for EPA's Action Plan

Ten-year Action Plan.

Reference vision statements from PPIC and Delta Vision.

Define EPA's goal for desired conditions in the Delta

The Delta's relationship to the watershed (?)

Proportionate and adequate inflow for Delta objectives, on a more natural inflow hydrograph (substantial increase on SJ)

Water quality objectives met [in ways that support flow needs/ functions]

Discussion/notes: On the San Joaquin side the combination of severely reduced flows (low DO; temperature stress; concentration of contaminants) and contaminants is such that the status quo could impair recovery of parts of the delta (ecosystem—but also other beneficial uses, such as rec and ag.)

Restoration of the River corridor (eg. SJRRP, wetlands and floodplain habitat, tributary fall run salmonids, ... (CY Check with USGS, Bruce re condition of fish generally) These are issues raised to the RB (triennial review, 303 (d)

Thus vision for the SJ includes:

- ✓ *Higher inflow on a pattern tracking natural hydrology*
- ✓ *Reduction in loads of Se and other contaminants (e.g., pesticides, MeHg) (CY: check background docs from RB; check flows comments, espec. #*
- ✓ *(WE could go into specific needs: appropriate temperature objectives (check Valentina's recent letter on listing); beneficial use designation and objectives that capture the smaller scale diversity and range of conditions (temporal, spatial) needed for survival in the River*

(CY: call /ask re the occurrence of warm and cold species – how are they separated? Do

they ever overlap in habitat?

Tailor an EPA vision statement as suggested by Erin on 04/13/11:

"For the "desired estuarine community", I used the estuarine community described in the 2006 PPIC report, envisioning futures. I'd like to see something added regarding the size and composition of the phytoplankton community, but don't feel that I know enough to adequately identify a goal for the estuarine community we are attempting to protect."

Habitat goal for San Francisco Bay Delta estuarine community – Optimize salinity and temperature variability to support:

1. Desired estuarine species:
 - a. Native and endemic
 - b. Food and sport
 - c. Food web species that support species in a and b (e.g., diatoms, copepods, mysid shrimp).
2. Abundant zooplankton and mysid shrimp.
3. Minimize success of invasive species
4. Diverse structure and function within six necessary physical habitat types:
 - a. Productive, brackish open water habitat (low salinity zone).
 - b. Brackish tidal marsh
 - c. Seasonal floodplain
 - d. Freshwater wetlands
 - e. Upland terrestrial habitat/buffer
 - f. Open river channels

Bike Rack

potential action for selenium [needs clarification]: EPA will make concerted use of regulatory and non-regulatory programs to reduce loads of selenium into the Bay/Delta by x-y [range or percent annual average] to avoid the cost of additional 303d listings and the preparation of responsive TMDLs. *CY: check with RB re possibility of adding something in the Davis area; SJ is pretty much covered*

potential action for selenium [needs clarification]: EPA will support the Central Valley Water Board's requirements for implementation of existing TMDLs for agricultural drainage in the San Joaquin River Basin. *(Review Rudy's information about expansion of the GBP; review the WDR draft)*

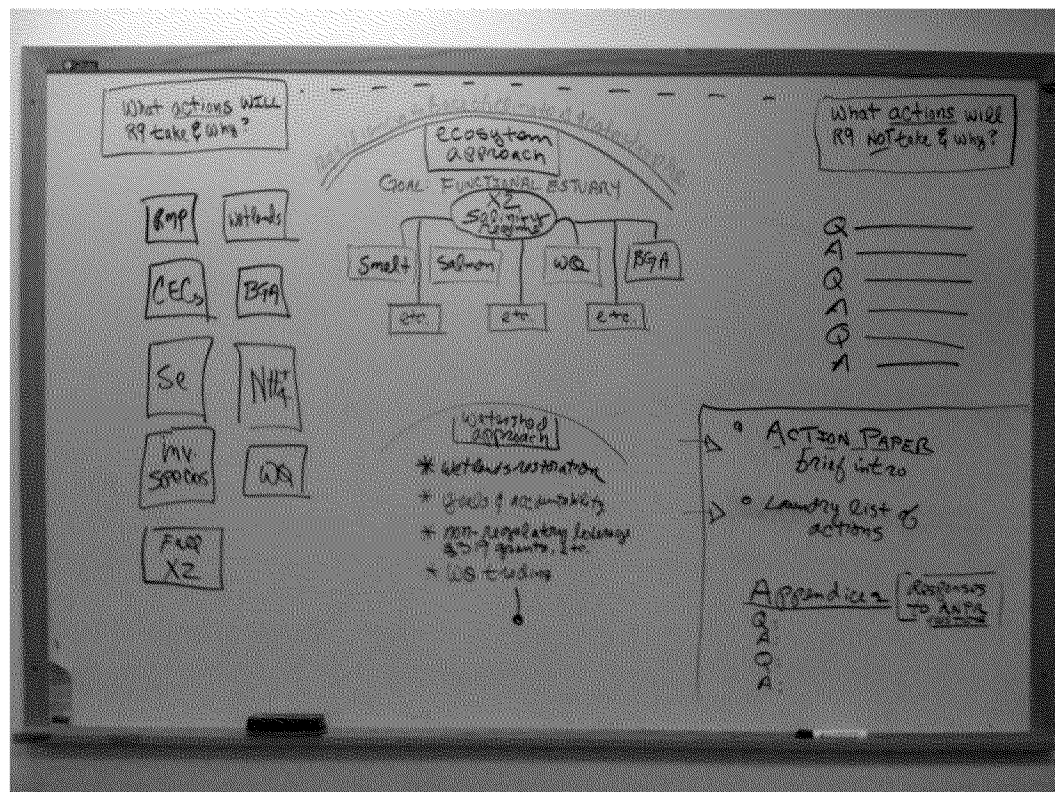
potential action for selenium [needs clarification – is this related to the action we propose that links with the Water Board's pending WDR?]: In order to further reduce downstream mobilization of selenium from the San Joaquin River,

Follow-up for pesticides topic: Re: litigation (where is disagreement between agencies; where is OW?) ---TH to write something

Criteria for Proposing EPA Actions (circa JAN 2011)

1. Importance to aquatic habitat
 - a. Biggest bang for the buck
 - b. Confidence in success
 - c. Contributes to resiliency (re: proposed BDCP infrastructure, seismic and storm catastrophe, sea level rise)
 - d. "No Regrets"
2. Feasibility (in-house resources & expertise)
3. The view of the State regarding our proposals
 - a. Chance of success
4. Clear authority for EPA to act
5. Political feasibility

Conceptual Structure of EPA's Action Plan



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Karen: Got biocriteria?

Karen: View our work as a GAPS analysis of what we can do to protect fishes in the Delta...

Group: We need to establish the context for all the actions EPA is proposing, and explain related actions and processes underway that tie into our proposed actions. Hello? Tim get's this and needs your help ;-)

Group: We need to establish the geographical and temporal scope of EPA's proposed actions.

❖❖❖❖❖❖❖❖